

PROGRAMMABLE SLIDING WINDOW FOR IMAGE PROCESSING

ABSTRACT OF THE DISCLOSURE

A sliding window (block) system incorporating a methodology for providing a processor access to image data is described. In an exemplary embodiment, the system operates as follows. An image is received for processing that has a size that is too large for the processor to access directly. As a result, the sliding window system creates first, second, and third swappable windows (blocks) for accessing image data from the image; each windows is swappable so that any two are available within the memory space of the processor while a third is being loaded in a background memory. The system cycles through the three windows such that, at any given point in time, two of the three windows are affixed in the memory space of the processor as left and right adjacent windows, while the remaining or third window is being loaded in the background (e.g., in a DRAM) as a temporary shadow or background window. After the shadow window is loaded with appropriate image data, it is brought into the foreground (i.e., within the memory space of the processor) as the new right window. The prior (old) right window now becomes the new left window; the prior (old) left window now becomes a new shadow or background window. The process repeats as necessary, until all image data of the target image has been accessed/processed.